



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/583,536

06/15/2006

Ja Yeon Cho

09983.0154USWO

3164

23552 7590 02/01/2011
MERCHANT & GOULD PC
P.O. BOX 2903
MINNEAPOLIS, MN 55402-0903

EXAMINER

ROGERS, MARTIN K

ART UNIT

PAPER NUMBER

1747

MAIL DATE

DELIVERY MODE

02/01/2011

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/583,536	Applicant(s) CHO, JA YEON	
	Examiner MARTIN ROGERS	Art Unit 1747	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 January 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 6, 8, 11 and 25-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6, 8, 11, 25-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 1 and 6 are objected to because of the following informalities: The first and second lines of the claims require a limitation of "...continuous injection blow mold a PET container..." The examiner believes that a small grammatical error was made and that Applicant intended to require -- continuous injection blow molding a PET container -
-. Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-3, 6, 8, 11, and 25-27 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In regards to claims 1 and 6, Applicant now requires a third temperature-controlled blow mold. The examiner finds support for a first temperature controlled blow mold in [0036] of the specification and support for a second temperature controlled blow mold in [0039] of the specification, however the examiner is unable to find a any

Art Unit: 1747

description of a third temperature controlled blow mold in the specification of the present application. Therefore, it is the examiner's position that this newly-added limitation is unsupported by the original disclosure and is hence new matter.

Claims 2, 3, 8, 11, and 25-27 are rejected for being dependent on claims 1 or 6.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1, 2, 6, 11, and 22-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shinichi et al. (Japanese Kokai JP8323845 already of record) in view of Uhlig (USP 3740181), Hagano et al. (Pre-Grant Publication 2002/0125254), Farrell (USP 4038006), Mojonier et al. (USP 3366290), Scott et al. (Pre-Grant Publication 2004/0134171), Cox (USP 4291915), Jabarin (USP 4522779) and optionally Maruniak et al. (USP 3817390), Wallace (USP 2936920) or Reil (USP 5191988).

In regards to claims 1, 6, 22, and 23 Shinichi discloses a method for manufacturing a PET ([0004]) container (Figure 14) during a continuous injection blow molding process ([0031]) comprising the steps of blow molding a preform with air (Column 2, line 53) in a cavity (Figure 12) that has a handle forming portion for

Art Unit: 1747

compressing both sides of the bottle to form the handle section (Figure 12), conveying the preform by clamping its neck (Figure 12: 82), creating a hole in the compressed handle area ([0096]), and using a bonding apparatus for bonding a cut-off portion remaining in the handle section after cutting off the compressed portion of the handle section (Figure 17). In the invention of Shinichi, the apparatus used to form a hole in the handle area is not disclosed and the unbonded flanges of the handle area are sealed by using ultrasonic welding of a prefabricated piece ([0099] and [0100]).

Uhlig discloses that when blow molding a handled container, it is beneficial to have an intermediate blowing step in which the parison is blow molded into a cavity that creates a shape which allows the handle section to be compressed (Figure 12) for the benefit of creating a desirable amount of biaxial stretching in the handled container (Column 1, lines 45-49). Uhlig further discloses that it was well known in the art at the time of the invention to use a mold punch (Figure 17) to remove the compressed portion of a container handle.

Hagano discloses that it was known in the art to injection mold around the seam of a blow molded container by compressing the cut-off portion and overmolding the edges with an injection resin ([0090]). One of ordinary skill in the art at the time of the invention would have realized that by injection molding the sealing member directly onto the container of Shinichi rather than prefabricating it and then welding it in place, the amount of equipment, the production time, and the need to store additional pre-made parts would be reduced.

Art Unit: 1747

Additionally, Maruniak also discloses that sealing flanges through insert injection molding around compressed flanges (Figure 3: 17) is well known and suggests to one of ordinary skill in the art that through the use of insert injection molding, an improved seal can be created with fusion of the flange to the injected resin (Column 3, lines 44-45). Therefore, one of ordinary skill in the art would have also found it obvious to seal the flanges of the above combination with the insert injection molding required by the claims for the benefit of achieving the improved seal disclosed by Maruniak.

Therefore, in order to create a biaxially stretched container while saving on equipment costs and processing time, one of ordinary skill in the art would have found it obvious to use the preliminary blow molding step taught by Uhlig to create the container disclosed by Shinichi, cut the compressed portion of the container taught by Shinichi with the punch disclosed by Uhlig, and then bond the cut-off portions with the injection mold taught by Hagano or Maruniak.

This combination does not disclose that the handle forming portion of a third blow mold be configured to penetrate the body of the bottle in a handle forming area.

Farrell suggests to one of ordinary skill in the art at the time of the invention that once an integral handle is formed into a container and sealed (Column 1, lines 27-30), it is possible to give it a desired shape (Column 5, lines 26-30) by blow molding the handled container in a mold with sections that contact each other through the handle aperture (Figure 5: 16). Therefore, one of ordinary skill in the art at the time of the invention would have found it obvious to use a mold with opposing protrusions which contact through the handle aperture in order to mold the handle portion of the finished

Art Unit: 1747

container into a different shape. The combination of references does not disclose that the final shaping of the container embed the cut-off portion remaining in the handle section.

The previous combination does not disclose that the individual blow molds are temperature controlled.

Jabarin discloses that by expanding a container in three different temperature-controlled blow molds (Column 6, line 52 through Column 7, line 21), a desired degree of crystallinity of the container can be controlled for during the molding steps (Column 3, line 56) and the container can be imparted with improved physical properties (Column 8, line 5 and Column 11, line 18 and Table I). Therefore, it would have been obvious to a skilled artisan to use temperature controlled molds for the blow molding steps of the above combination of references for the benefit of controlling the crystallinity of the containers as well as imparting the containers with improved mechanical properties (as disclosed by Jabarin).

The combination of references does not expressly disclose the specific volume sizes in terms of percentage of final volume at each of the intermediate blowing operations. However, Uhlig makes it clear that the degree of intermediate expansion is used to control biaxial orientation (Column 1, lines 45-49). Furthermore, Jabarin discloses that the degrees of expansion in each of the intermediate molds will affect the mechanical properties of the container (Column 7, lines 46-68). Therefore, a skilled artisan would have used routine experimentation to achieve the relative degrees of expansion being claimed by Applicant for the benefit of creating a product with a desired

Art Unit: 1747

amount of orientation and desired mechanical properties (as disclosed by Uhlig and Jabarin)

Mojonnier discloses that a bonded flange can cause discomfort in the handle region of a container and that the comfort can be improved by bending the flange (Column 3, lines 41-45), however there still remains a possibility that the hand of a user will come in contact with the protrusion (Figure 4).

Scott discloses that protrusions in a gripping area can cause discomfort to a gripper's hand and that the comfort can be improved from recessing the protrusion out of contact with the hand ([0254]).

Cox provides further evidence that it is known to improve the comfort of a surface by recessing uncomfortable elements so that they do not project from a contact surface (Column 2, lines 23-25). Therefore, in order to further improve the comfort of the handle area, one of ordinary skill would have found it obvious to form a recess during the handle-shaping step of the above combination such that the protruding bonding flange does not project from the gripping surface of the handle (as disclosed by Scott or Cox), therefore improving the comfort of the handle.

Wallace and Reil disclose that there is a reasonable expectation of success for recessing the bonding seam of a container so that it does not affect the exterior surface (Wallace Figure 4) (Reil Figure 8).

In regards to claims 2 and 24, Hagano further discloses an insert inject mold having a compressing member for compressing both sides of an the cutoff portion

Art Unit: 1747

(Figure 9: 67). Maruniak also discloses that the flanges be compressed during injection molding (Figure 3: 17).

In regards to claim 11, Hagano further discloses that use of an insert injection mold (Figure 9). Marunkai also further discloses the use of an insert injection mold (Figure 3: 25).

In regards to claim 25, Hagano further discloses an insert injection molding process in which an intermediate portion of the seam is compressed and then bonded with injection molding (Figure 9). Maruniak also discloses an insert injection molding process in which an intermediate portion of the seam is compressed and then bonded with injection molding (Figure 3).

In regards to claim 26, the apparatus of the previous combination is capable of the intended use of allowing ends of the seam flanges to be separated from each other.

Claims 3 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over the previous combination of Shinichi et al. (Japanese Kokai JP8323845 already of record) in view of Uhlig (USP 3740181), Hagano et al. (Pre-Grant Publication 2002/0125254), Farrell (USP 4038006), Mojonier et al. (USP 3366290), Scott et al. (Pre-Grant Publication 2004/0134171), Cox (USP 4291915), Jabarin (USP 4522779), Maruniak et al. (USP 3817390), Wallace (USP 2936920) and Reil (USP 5191988) as

Art Unit: 1747

applied to claims 1 and 6 above, and further in view of Fischer et al. (USP 4123217) and optionally Carver Jr. et al. (USP 3754489) and Muzzy (USP 5360661).

In regards to claim 3, the previous combination does not disclose that the mold punch has a heater installed on an end of the mold punch.

Fischer discloses installing a heater at the end of the mold punch (Column 2, line 65) for the benefit of allowing a cooled blow mold to be used which creates a cleanly-formed handle region (Column 2, lines 66-68). Although Fischer is concerned with punching a handle into a parison that has already been heat bonded within the handle region, one of ordinary skill in the art at the time of the invention would have been motivated to apply the teachings of Fischer to the cutting step disclosed by Shinich for the benefit of creating a clean shear in the handle area, preventing any stretching or deformation of the parison which might otherwise occur. It is the examiner's position that the combination of references is capable of the intended use of operating at the temperature being claimed by Applicant. Furthermore, it is the examiner's position that it is within the ability of a skilled artisan to use routine experimentation to achieve the optimum operating temperature for the device.

In any event, Carver suggests to one of ordinary skill in the art that a plastic-severing apparatus should be heated to a temperature that is at or slightly above the melting temperature of the plastic in order to facilitate the cutting process but not decompose the plastic (Abstract). A skilled artisan would appreciate that PET has a melting temperature of approximately 250°C, as evidenced by Muzzy (Column 14, line

Art Unit: 1747

60). Therefore, a skilled artisan at the time of the invention would have found it to use an operating temperature slightly above that of PET for the mold punch (as required by the claims) for the benefit a facilitating the cutting of the plastic without decomposing the plastic (as disclosed by Carver).

In regards to claim 8, the previous combination does not teach that use of a mold punch having a heater installed on its end when the parison is thick.

Fischer discloses installing a heater at the end of the mold punch (Column 2, line 65) for the benefit of allowing a cooled blow mold to be used which creates a cleanly-formed handle region (Column 2, lines 66-68). Although Fischer is concerned with punching a handle into a parison that has already been heat bonded within the handle region, one of ordinary skill in the art at the time of the invention would have been motivated to apply the teachings of Fischer to the cutting step disclosed by Shinichi for the benefit of creating a clean shear in the handle area, preventing any stretching or deformation of the parison which might otherwise occur. It is the examiner's position that it is within the ability of a skilled artisan to use routine experimentation to achieve the optimum operating temperature for the device.

In any event, Carver suggests to one of ordinary skill in the art that a plastic-severing apparatus should be heated to a temperature that is at or slightly above the melting temperature of the plastic in order to facilitate the cutting process but not decompose the plastic (Abstract). A skilled artisan would appreciate that PET has a melting temperature of approximately 250°C, as evidenced by Muzzy (Column 14, line

Art Unit: 1747

60). Therefore, a skilled artisan at the time of the invention would have found it to use an operating temperature slightly above that of PET for the mold punch (as required by the claims) for the benefit a facilitating the cutting of the plastic without decomposing the plastic (as disclosed by Carver).

It is the examiner's position that it is obvious to use the heated press disclosed by Fischer for essentially any container thickness. The thickness of the container is a design choice that one of ordinary skill in the art at the time of the invention would have modified to adjust the aesthetics and structural strength of the container.

Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over the previous combination of Shinichi et al. (Japanese Kokai JP8323845 already of record) in view of Uhlig (USP 3740181), Hagano et al. (Pre-Grant Publication 2002/0125254), Farrell (USP 4038006), Mojonnier et al. (USP 3366290), Scott et al. (Pre-Grant Publication 2004/0134171), Cox (USP 4291915), Jabarin (USP 4522779), Maruniak et al. (USP 3817390), Wallace (USP 2936920) and Reil (USP 5191988) as applied to claims 1 and 6 above, and further in view of Perea (USP 5957415).

In regards to claim 27, the previous combination does not disclose separating the flanges before the overmolding process.

Perea discloses that by bending a flange, the anchor force of a flange within an overmold can be improved (Column 2, lines 18-21). One applying the teachings of Perea to the joined flanges of the previous combination would find it obvious to bend

Art Unit: 1747

one or both of the flanges in the handles area of the container such that they become encapsulated by the overmold and anchored therein (as disclosed by Perea). This bending would result in the flanges becoming separated).

Response to Arguments

2. Applicant's arguments filed 1/13/2011 have been fully considered but they are not persuasive.

On pages 7-10 of the remarks, Applicant discusses the newly-added limitations. Applicant's arguments with respect to these newly-added limitations have been fully considered but are moot in view of the new grounds of rejection.

On page 10 of the remarks, Applicant argues that Scott, Cox, Wallace, and Reil is non-analogous art. In response to applicant's argument that Scott, Cox, Wallace, and Reil are nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, Scott is directed to the same problem of embedding a seam to improve the comfort for a user. Cox is also concerned with improving the comfort of a product by embedding a protrusion on the product into the body of the product. Wallace and Reil are concerned with the same problem of

Art Unit: 1747

embedding a seam on a container. The examiner notes that Wallace and Reil were simply relied upon to provide evidence that skilled artisan would have found there to be a reasonable expectation of success of embedding the seam area of a container into the body of the container and were not used in the combination of references. It is the combination of references which requires embedding a seam with is specifically located in the handle area of a container.

Applicant argues on page 11 of the remarks that it is unclear why a skilled artisan would be motivated to combine a large number of references to arrive at the claimed subject matter. In response to applicant's argument that the examiner has combined an excessive number of references, reliance on a large number of references in a rejection does not, without more, weigh against the obviousness of the claimed invention. See *In re Gorman*, 933 F.2d 982, 18 USPQ2d 1885 (Fed. Cir. 1991).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARTIN ROGERS whose telephone number is 571-270-7002. The examiner can normally be reached on Monday through Thursday, 7:30 to 5:00, and every other Friday, 7:30 to 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1747

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Martin Rogers/

/Richard Crispino/
Supervisory Patent Examiner, Art Unit 1747